

CLAIMS

We Claim:

1. A fabric laminate comprising at least a first fabric, a second fabric and a heat sensitive adhesive layer; the adhesive layer pre-laminated on the first fabric in the form of a film tacked on the first fabric by application of pressure and temperature less than that required for lamination followed by placement of the adhesive layer between opposed surfaces of the first and second fabrics for adhesively securing said first and second fabrics together along their opposed surfaces in a lamination step by positioning the second fabric on the pre-laminated first fabric and applying sufficient pressure and temperature.
2. A method of manufacturing the laminated garment of claim 1, the method comprising the steps of:
 - determining a melt temperature of the adhesive layer;
 - selecting a tacking temperature below the melt temperature of the adhesive layer;
 - placing the adhesive layer on the first fabric layer;
 - applying a tacking pressure and the tacking temperature to the adhesive layer and the first fabric layer to generate a first prelaminated fabric layer;
 - placing the first prelaminated fabric layer against the second fabric layer
 - sandwiching the adhesive layer between the first fabric layer and the second fabric layer;
 - applying a lamination pressure for a pressure cycle time to the sandwich;
 - applying a lamination temperature for a temperature cycle time to the sandwich such that the lamination temperature is not less than the melt temperature of the adhesive layer; and
 - shaping the laminated garment.
3. A method for manufacturing a laminated garment of claim 2 further including the step of diecutting the laminated sandwich to shape the laminated garment.

4. A method for manufacturing a laminated garment of claim 3 further including the step of finishing the edges following the step of diecutting with a hot surface to contain fraying fibers generated by the diecutting step.
5. A method of molding a cup in the laminated garment of claim 1, the method comprising the steps of:
 - placing a woven moldable stretch fabric between a prelaminated first fabric, the prelaminated first fabric having tacked on a first fabric a layer of adhesive, and a second fabric to create a pre-bubble mold assembly;
 - laminating the pre-bubble mold assembly by applying sufficient pressure and temperature for a cycle time;
 - placing the laminated pre-bubble mold assembly in a bubble' molding assembly between padded holding first and second plates; and
 - applying heat in a bin connected to the first plate via a first hole; and applying heat and pressure via a plunger pressed through an opening aligned with a second hole in the second plate that is aligned with the first hole.
6. The method of molding a cup in a laminated garment of claim 5 further comprising the step of selecting a plunger shape corresponding to a desired size and shape for the cup.
7. The method of molding a cup in a laminated garment of claim 5 wherein the plunger creates a cup size selected from greater than a C size, and at least a DD size.
8. The method of molding a cup in a laminated garment of claim 5 further comprising shaping, prior to bubble molding, the woven moldable stretch fabric to have an embossed trim just inside a bustline corresponding to the cup, with an ornamentally shaped die, to form a slot, or to form a slot to receive a wire insert adjacent to the woven moldable stretch fabric.
9. The method of molding a cup in a laminated garment of claim 8 wherein the die is scalloped.
10. The method of molding a cup in a laminated garment of claim 8 wherein the woven moldable stretch fabric is a spacer fabric shaped to adjacently receive a center-front stabilizer channeling.

11. A brassiere for providing support to at least one breast of a wearer, the brassier comprising:
- at least two layers that are laminated together by an adhesive layer between them by application of heat and pressure;
 - a third layer of woven stretch fabric, having an adhesive layer prelaminated thereon, sandwiched between the at least two layers;
 - at least one cup formed by a bubble molding process such that the at least two layers and the third layer in the area suitable for bubble molding are shaped into a cup having a desired size by the application of pressure; and
 - at least one unsewn edge finished by lamination only.
12. The brassiere of claim 11 further having at least one strap cushioned by laminating a woven, stretch fabric between the at least two layers.
13. The brassiere of claim 11 wherein the adhesive layer is applied to one of the at least two layers in a prelaminating step at a temperature and pressure sufficient to make the adhesive layer tacky without melting followed by contacting another layer of the at least two layers to the prelaminated layer and laminating at sufficient temperature and pressure to melt the adhesive into the fibers of the at least two layers.
14. The brassier of claim 11 further including at least one wire in association with the at least one cup.
15. An insert for providing support to the brassiere of claim 11 by providing support and definition to at least two cups placed in the brassiere, the insert comprising:
- a bottom layer that is initially prelaminated with an adhesive layer by contacting them at a temperature and pressure that is not sufficient to completely melt the adhesive;
 - a set of precisely placed wire inserts to define the separation between the cups in a brassiere;
 - a top layer, made from a stretch resistant fabric, placed on the prelaminated side of the bottom layer so as to sandwich the wire inserts between the top and the bottom

layers following lamination of the top and bottom layers by application of a pressure and temperature sufficient to melt the adhesive for a prescribed cycle time; and a shape formed by diecutting the laminated top and bottom layers to yield the insert having two appropriately spaced apart wires.

16. A method for continuous manufacturing of garments comprising inserts, the method comprising the steps of:
 - placing at least one insert on a section of material;
 - sandwiching the at least one insert prior to lamination;
 - drawing a length of material including the section of material into a lamination machine;
 - laminating the at least one insert by application of pressure and temperature; and
 - removing laminated material from the lamination machine.
17. The method of claim 16 wherein the step of placing the at least one insert is carried out with a placing aid.
18. The method of claim 17 wherein the first placing aid is one or more of a spot formed by at least one focused light source, at least one stop, and a spot formed by at least one laser.
19. A method for continuous manufacturing of inserts, including inserts for the method of claim 16, comprising insert components, the method comprising the steps of:
 - setting a universal tool to a set of specifications including desired curvature and spacing
 - placing at least one insert component with the aid of a first placing aid;
 - placing another insert component overlapping the at least one insert component with the aid of a second placing aid;
 - laminating the at least one insert component to the another insert component by application of pressure and temperature; and
 - removing a laminated insert from the lamination machine.

20. The method of claim 19 wherein the first placing aid is one or more of a spot formed by at least one focused light source, at least one stop, and a spot formed by at least one laser.